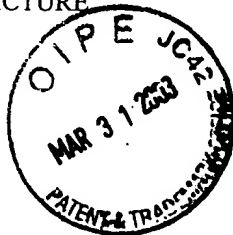


28PH 2827  
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Kishore K. Chakravorty

Title: ELECTRONIC ASSEMBLY COMPRISING INTERPOSER WITH EMBEDDED CAPACITORS AND METHODS OF MANUFACTURE

Docket No.: 884.267US1  
Filed: July 31, 2000  
Examiner: Tuan Dinh



Serial No.: 09/628705  
Due Date: March 25, 2003  
Group Art Unit: 2827

Commissioner for Patents  
Washington, D.C. 20231

We are transmitting herewith the following attached items (as indicated with an "X"):

- ☒ A return postcard.  
☒ Response to Restriction Requirement (5 pgs.).

If not provided for in a separate paper filed herewith, Please consider this a PETITION FOR EXTENSION OF TIME for sufficient number of months to enter these papers and please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.  
P.O. Box 2938, Minneapolis, MN 55402 (612-373-6900)

By: Ann M. McCrackin  
Atty: Ann M. McCrackin  
Reg. No. 42,858

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231, on this 24 day of March, 2003.

Anne M. Richards

\_\_\_\_\_  
Name

Anne M. Richards  
Signature

Customer Number 21186

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.  
(GENERAL)

P.O. Box 2938, Minneapolis, MN 55402 (612-373-6900)

S/N 09/628,705



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Kishore K. Chakravorty	Examiner:	Tuan T. Dinh
Serial No.:	09/628,705	Group Art Unit:	2827
Filed:	July 31, 2000	Docket:	884.267US1
Title:	ELECTRONIC ASSEMBLY COMPRISING INTERPOSER WITH EMBEDDED CAPACITORS AND METHODS OF MANUFACTURE		

RESPONSE TO RESTRICTION REQUIREMENT

Commissioner for Patents  
Washington, D.C. 20231

In response to the Restriction Requirement mailed February 25, 2003, Applicant elects, with traverse, Species I (FIG. 2). The requirement is traversed on the basis that a *prima facie* case for restriction has not been made, and that the requirement does not meet the criteria set forth in the M.P.E.P. for restriction.

A. A Prima Facie Case for Restriction Has Not Been Made

In formulating a test as to whether restriction is required, the Patent Office has taken the position that if "the classification is the same and the field of search is the same, and there is no clear indication of separate future classification and field of search, no reasons exist for dividing among related inventions." M.P.E.P. §808.02.

The Examiner asserted that this application contains claims directed to the following patentably distinct species:

Specie I	FIG. 2
Specie II	FIG. 3
Specie III	FIG. 4
Specie IV	FIG. 5

Applicant respectfully points out that the no mention was made by the Examiner of FIGS. 1, 7, and 8 and any claims readable thereon.

FIG. 1 illustrates a block diagram of an electronic system 1 incorporating at least one electronic assembly 4 with embedded capacitors.

FIG. 2 illustrates a cross-sectional representation of a multi-layer interposer 50 having an embedded capacitor 55.

FIG. 3 illustrates a cross-sectional representation of a multi-layer interposer 310 having

an embedded capacitor comprising one or more capacitive plates 306 of a first potential and one or more capacitive plates 307 of a second potential.

FIG. 4 illustrates a cross-sectional representation of a multi-layer interposer 410 having at least one embedded discrete capacitor 430.

FIG. 5 illustrates a cross-sectional representation of a multi-layer interposer 510 having at least one embedded discrete capacitor 530 and/or 540.

FIG. 7 is a flow diagram of a method of fabricating an interposer comprising an embedded capacitor.

FIG. 8 is a flow diagram of a method of fabricating an electronic assembly having an interposer comprising an embedded capacitor.

In general, FIGS. 1-5, 7, and 8 illustrate the following: electronic assemblies with embedded capacitors, semiconductor dice, interposers, substrates, conductors, lands, vias, conductive layers, insulating layers, capacitive elements, and various fabrication operations relating thereto. Depending on the specific implementation, each of these elements and/or fabrication operations may be found in Class 252 (Compositions), Class 257 (Active solid-state devices), and/or Class 361 (Electricity: electrical systems and devices). None of these classes appears to span only one element or fabrication operation, and not the other. Therefore, since each of the elements and fabrication operations may be found in the same class, the classification for the claimed embodiments should be the same, they should have no separate status in the art, and no different field of search should be required.

In addition, no reasons whatever have been given by the Examiner in the instant requirement for separate classification, status, or field of search. Since the classification for the claimed embodiments is the same, since they have no separate status in the art, since a different field of search is not required, and since there is no evidence in the record to indicate otherwise, it is respectfully asserted that a *prima facie* case for restriction has not been established.

Therefore it is respectfully requested that the Restriction Requirement be reconsidered and withdrawn.

## **B. The Restriction Requirement Does Not Meet M.P.E.P. Requirements**

The M.P.E.P. §803 also states that the two criteria for restriction between patentably distinct inventions are:

1. inventions must be independent or distinct as claimed; and
2. there must be a serious burden on the examiner if restriction is required.

### ***B.1 The Inventions Must Be Independent Or Distinct As Claimed.***

The M.P.E.P. states:

“Claims to be restricted to different species must be mutually exclusive. The general test as to when claims are restricted, respectively, to different species is the fact that one claim recites limitations which under the disclosure are found in a first species but not in a second, while a second claim recites limitations disclosed only for the second species and not the first. This is frequently expressed by saying that claims to be restricted to different species must recite the mutually exclusive characteristic of such species.” MPEP §806.04(f).

In the present Restriction Requirement, the Examiner has not identified limitations that are found in the different species that are mutually exclusive.

### ***B.2 There Must Be A Serious Burden On The Examiner If Restriction Is Required.***

The Restriction Requirement is also traversed because no *prima facie* case of a serious burden on the Examiner has been established.

The M.P.E.P. states:

“If the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to distinct or independent inventions.” M.P.E.P. §803.

The M.P.E.P. further states:

“For purposes of the initial requirement, a serious burden on the examiner may be *prima facie* shown if the examiner shows by appropriate explanation of separate

classification, or separate status in the art, or a different field of search as defined in MPEP §808.02.” M.P.E.P. §803.

As noted above, the Examiner has failed to show, by appropriate explanation, separate classification, or separate status in the art, or a different field of search.

When the classification is the same, the field of search is the same, and there is no clear indication of separate future classification and field of search, no reasons exist for dividing among related embodiments.

Applicant believes that the embodiments claimed should be searched as a single group. Applicant respectfully submits that a search of any of the subject matter shown in FIGS. 1-5, 7, and 8 would encompass the subject matter of all currently claimed embodiments. Thus, a search of all embodiments could be made and the entire application could be examined without serious burden on the Examiner. Therefore, Applicant respectfully requests reconsideration and withdrawal of the Restriction Requirement.

### **C. Provisional Election**

Applicant believes that no proper *prima facie* case for restriction has been made, that the four species identified by the Examiner do not represent distinct “species” of the claimed subject matter, and that the entire application could be examined without serious burden on the Examiner. However, Applicant provisionally elects, with traverse, the claims directed to Species I (i.e., claims 1-8, 10-14, and 16-18). If the Requirement is continued, Applicant requests cancellation of claims 9, 15, and 19-30 without prejudice or disclaimer, and Applicant reserves the right to reintroduce them in this application, or in one or more divisional applications, at a later date.

RESPONSE TO RESTRICTION REQUIREMENT

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The Examiner is invited to telephone Applicant's attorney Walter W. Nielsen at 602-298-8920 or the below-signed attorney if there are any questions regarding this response or if prosecution of this application may be assisted thereby.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

KISHORE K. CHAKRAVORTY

By his Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.  
P.O. Box 2938  
Minneapolis, MN 55402  
612-349-9592

Date March 24, 2003

By Ann M. McCrackin

Ann M McCrackin

Reg. No. 42,858

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231 on this 24 day of March, 2003.

Name: Anne M. Richards

Signature: Anne M Richards